

Discussion of Affordability Assessment Procedure to Accompany the Base Numeric Nutrient Standards

*Montana Department of Environmental Quality,
with EPA region VIII and EPA HQ
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Science: Nutrient concentrations DEQ is identifying as potential criteria are low, especially in western Montana

Typical concentrations in trout streams about:

- Total P: 0.03 mg/L
- Total N: 0.3 mg/L

Typical concentrations in prairie streams about:

- Total P: 0.15 mg/L
- Total N: 1.1 mg/L

*Criteria seasonal (July 1-Oct 1 each year)

Policy: Economic Considerations

- We are building in an option for communities to receive relief from stringent nutrient standards based on:
 - Ability to pay for treatment (affordability)
 - Availability of treatment technology (limits of technology)
- *These options apply only to wastewater treatment beyond the federally mandated technology-based regulations (i.e., National Secondary Standards) and only to numeric nutrient standards*

Definition

Limits of technology means that wastewater treatment technology that can achieve the total phosphorus and total nitrogen concentrations* provided in circular DEQ-10 (DATED) end-of-pipe.

These would be, at present, *about* 0.05 mg TP/L, and \leq 3 to 5 mg TN/L

Alternatives analysis flowchart

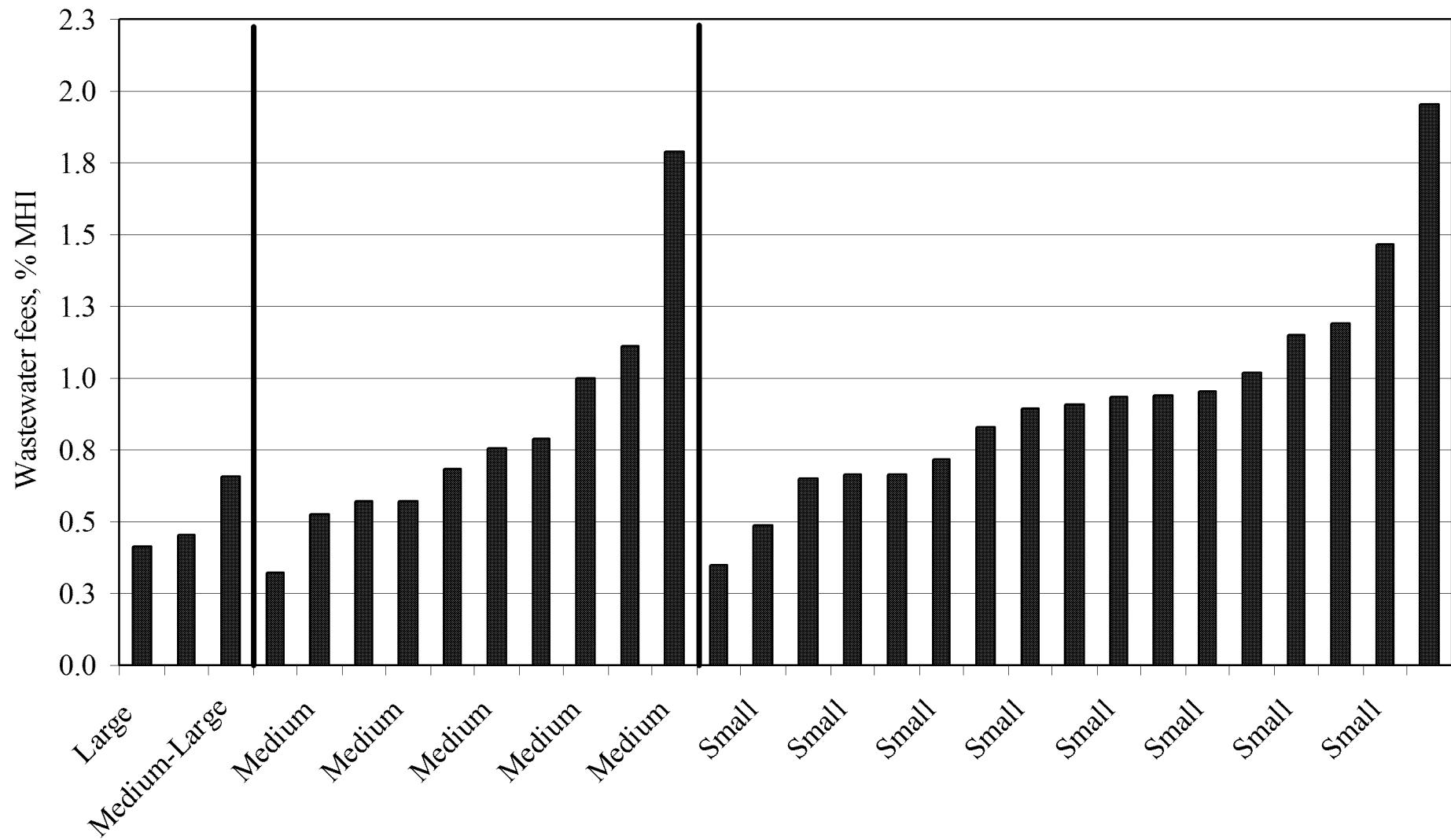
Go to flowchart...

Wastewater Fee Survey (Jeff Blend & Paul LaVigne)

Objective: Collect a representative sample of fees Montana communities are currently paying for wastewater treatment, as a function of median household income

- Stratified Random Survey, 4 Community Sizes (by population)
 - Large (> 10,000); Medium-large (10,000-5,000); Medium (5,000-1000); and small (<1,000)
- To be selected, each community had to:
 - Currently be meeting its MPDES permit, with a plant that was upgraded in the last 15 years
 - Not be a nutrient-removal facility (only a few have been built thus far)
- For communities meeting the above criteria, individual communities from each population category were chosen using proportional allocation and random sampling (n = 30, total)
 - Current per-user waster fee data were then collected and compared to the community MHI (2000 census, but updated to 2008 using a standard formula)

Current annual wastewater costs as a % MHI in Montana communities (n=30)



Fairness

- DEQ's proposed approach is more fair, as each community will pay for and work towards nutrient control in accordance with its members' financial capability
- If a MHI cost cap is not set, larger communities will always pay less per capita due to economics of scale
 - Do not want to set up a process that further stresses and depopulates small rural Montana towns

Benchmarks for the Remedy are Needed

Without a benchmark MHI as remedy when it has been shown that S & W impacts will occur, communities and their engineers have no way in advance to estimate what treatment level they should be designing to

- Like any inspection criterion, the inspectee can plan for and meet a criterion when he knows what it is beforehand

Some flexibility around the selected % MHI

- Whatever % MHI is used as the wastewater “cost cap” by DEQ (for discussion, say 1.5% MHI), there will need to be some flexibility around that percent, giving consideration to *reasonable* site-specific engineering issues such as:
 - The cost of the alternative technology. Perhaps technology **A** costs 1.7% MHI, but the next step down (technology **B**) costs 1.4%; go with 1.4%.
 - Available space to build WWTP and its affect on technology choices
 - Other engineering-specific factors

Once the WWTP design is finalized (giving consideration to above) and accepted by DEQ, its effluent capabilities (N and P concentrations and loads) would be carried through rule making as facility-specific temporary nutrient criteria